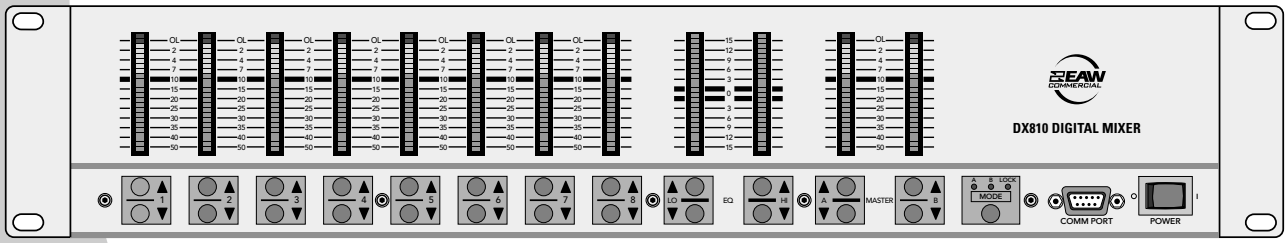
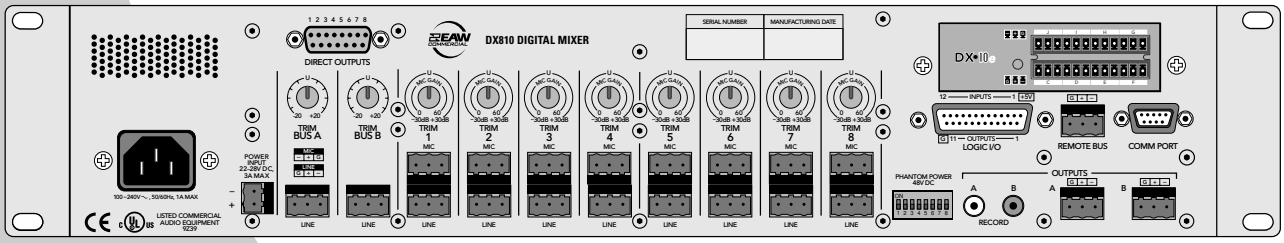
# INSTRUCTION MANUAL

# DX810 v3.3

8x10 Digital Matrix Mixer and Signal Processor



**CAUTION** ***AVIS***

**RISK OF ELECTRIC SHOCK • DO NOT OPEN**
***RISQUE DE CHOC ELECTRIQUE***
***NE PAS OUVRIR***

**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK**
**DO NOT REMOVE COVER (OR BACK)**
**NO USER-SERVICEABLE PARTS INSIDE**
**REFER SERVICING TO QUALIFIED PERSONNEL**

***ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER. CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.***
***AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE OU A L'HUMIDITE***

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

*Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'éléctrocution.*

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

*Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.*

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**WARNING —** To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

**CAUTION —** Internal lithium battery. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

# 1. SAFETY INSTRUCTIONS

**1.** Read Instructions — Read all the safety and operation instructions before operating the DX810.

**2.** Retain Instructions — The safety and operating instructions should be kept for future reference.

**3.** HEED ALL WARNINGS — Follow all warnings on the DX810 and in these operating instructions.

**4.** FOLLOW ALL INSTRUCTIONS — Follow all operating and other instructions.

**5.** Water and Moisture — Do not use the DX810 near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.

**6.** Ventilation — This DX810 should be situated so that its location or position does not interfere with its proper ventilation. For example, it should not be situated on a bed, sofa, rug, or similar surface that may block any ventilation openings, or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through ventilation openings.

**7.** Heat — Locate the DX810 away from heat sources such as radiators, or other devices which produce heat.

**8.** Power Sources — Connect the DX810 to a power supply only of the type described in these operation instructions or as marked on the rear panel. If using an external DC power supply or battery pack, be sure the voltage corresponds to the range indicated on the rear panel, and that it is connected with the correct polarity.

**9.** Power Cord Protection — Route power supply cords so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit the DX810.

**10.** Object and Liquid Entry — Do not drop objects into or spill liquids into the inside of the DX810.

**11.** Damage Requiring Service — The DX810 should be serviced only by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or

B. Objects have fallen, or liquid has spilled into the DX810; or

C. The DX810 has been exposed to rain; or

D. The DX810 does not appear to operate normally or exhibits a marked change in performance; or

E. The DX810 has been dropped, or its chassis damaged.

**12.** Servicing — The user should not attempt to service the DX810 beyond those means described in this operating manual. All other servicing should be referred to the EAW Commercial Service Department.

**13.** To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

*Pour prévenir les chocs électriques ne pas utiliser cette fiche polariseé avec un prolongateur, un prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune pariie à découvert.*

**14.** Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of the DX-810 is not defeated.

**15.** This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

*ATTENTION —Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant las limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.*

# 2. INTRODUCTION

The DX810 is our popular DX8 stereo digital audio mixer with the DX10e Expansion Kit installed. This adds eight more balanced outputs and converts it into a powerful matrix mixer/processor. It is designed for use in a variety of installations such as churches, courtrooms, convention centers, and hotels. With eight inputs, ten outputs, and a toolbox full of DSP, the DX810 fits most any installed sound reinforcement application.

Each of the 10 outputs represents a discrete mix of the eight inputs, resulting in a true 8x10 mixing matrix with virtual faders at each crosspoint. It has the ability to group any combination of gain elements to one of 32 groups.

A new software interface provides intuitive setup and operation via a PC. 31-band third-octave graphic or eight-band parametric EQs are available on each output. There is also a three band sweepable high and low shelving EQ with a fully parametric mid-range control on each input.

The processing power provided by the DX810 permits inserting a gate on each input, as well as a compressor on each input and output. It also permits inserting signal delay on each output, and creating crossover groups with custom high, low, or bandpass filters applied to each output. Up to five outputs can be assigned to a crossover group.

Each of the eight input channels is terminated to two Phoenix-type detachable connectors. Each connector is optimized to accept either microphone or line-level signals. Microphone preamplifiers employ XDR™ technology to offer studio-class audio performance. Phantom power of 48 VDC is switchable individually on each input. Two auxiliary line-level inputs with trim are provided, allowing analog signals to be mixed with the A and B master mixes. All main outputs deliver balanced line-level signals to detachable Phoenix-type connectors. The main A and B outputs also deliver buffered unbalanced signals to RCA connectors intended for recording.

The DX810 offers an intuitive front panel user interface for the A and B outputs. It consists of dual-function LED bar graph meters for each input and the A and B outputs. Input meters indicate the presence of signal before signal processing (pre-fader). Output meters indicate the actual level at output (post-fader). Levels are set by means of UP/DOWN pushbuttons dedicated to each input and output. A MODE button is used to select between Mix A and B. This allows adjustment of levels to both mix outputs from the same set of input controls. A third function of the MODE button allows the user to LOCK the front panel controls until a security unlock code is entered.

The DX810 offers flexible interface options through dedicated inputs and outputs for control and programming purposes. Two independent RS232 connectors are provided, one on the front panel and one on the rear, for connection to a computer or control system. A multi-pin (DB25F) connector on the rear panel allows interface among the 10 Logic Inputs and 10 Logic Outputs. This interface connects to switches, LEDs, and other devices, enabling hardware control and indication from custom control panels. All logic inputs and outputs are programmable in software. A proprietary remote control bus allows connection of the optional wired remotes over three-conductor cable. Remotes are available in Volume Control (DX-RVC) and 4-Switch (DX-SW4) versions and may be combined in any configuration.

The DX810 is supplied with DX-810-PC software that allows access to all of the system's settings and configurations. The software provides access to the 3-band input EQ, 31-band graphic EQ, eight-band parametric EQ, compressors, gates, delays, and crossover configuration. Group assignments and room combining are also configured in the software application. In addition, it allows saving and recalling up to 24 presets, configuration for input force on/force off functions with priority, and for the logic input and output connections. All settings and text labels are retained in the DX810, and can be saved on the computer's local drive.

The DX810 is UL and CE approved and designed for continuous use in professional fixed installation systems. An internal auto-ranging power supply allows connection to mains voltages from 90-240 VAC at 50/60 Hz. This is without requiring jumper or switch setting changes. A 24 VDC input is provided for applications where backup power is required. Switchover to backup power is automatic and silent.

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